What is claimed is:

1. A method for repeating data transmission between a reception side and a transmission side in a radio communication system wherein the transmission side includes a first upper layer and a first layer 1 and the reception side includes a second upper layer and a second layer 1, the method comprising the steps of:

a) by the transmission side, measuring a radio environment;

b) determining to perform repeated transmission or normal transmission based on a measurement result;

c) if it is determined to perform the repeated transmission, by the first upper layer of the transmission side, performing a first data processing;

d) by the reception side, receiving data from the transmission side and determining if the repeated transmission or the normal transmission was performed; and

e) if the repeated transmission was performed, by the second layer 1 of the reception side, performing a second data processing.

2. The method as recited in claim 1, wherein measuring the radio environment is performed periodically by the first layer 1 of the transmission side.

3. The method as recited in claim 2, wherein the step b)

includes the steps of:

b1) if the measured radio environment is characterized by a lower value than a predetermined threshold value, performing the repeated transmission; and

b2) if the measured radio environment is characterized by a higher value than the predetermined threshold value, performing the normal transmission.

4. The method as recited in claim 3, wherein determining to perform the repeated transmission or the normal transmission is performed at the first upper layer of the transmission side based on the measurement result that is reported from the first layer 1.

5. The method as recited in claim 4, wherein the first data processing includes the steps of:

by the first upper layer, storing the data in a first storage unit thereof and managing the stored data;

by the first upper layer, transmitting transmission information and the stored data to the first layer 1, the transmission information including information about the repeated transmission;

by the first layer 1, storing the received data in a second storage unit thereof; and

by the first layer 1, transmitting the data to the reception side repeatedly predetermined times based on the transmission information.

6. The method as recited in claim 5, wherein the predetermined times are determined based on first conditions including bit error rate (BER), signal to noise ratio (SNR), a load status of a transmission side system and quality of service (QoS) of transmitted data, the first conditions measured at the time of data transmission.

7. The method as recited in claim 5, wherein the predetermined times are determined based on second conditions including bit error rate (BER), signal to noise ratio (SNR), a load status of the transmission side system and quality of service (QoS) of transmitted data, the second conditions measured before beginning a radio service.

8. The method as recited in claim 5, wherein receiving the data from the transmission side is performed at the second layer 1 of the reception side.

9. The method as recited in claim 8, wherein determining if the repeated transmission or the normal transmission was performed is performed at the second layer 1 based on the transmission information that is transmitted from the transmission side to the reception side.

10. The method as recited in claim 9, wherein the transmission information is transmitted over a path recognizable by the second layer 1, the path including a

dedicated physical control channel (DPCCH).

11. The method as recited in claim 10, wherein the second data processing includes the steps of:

by the second layer 1, combining the data repeatedly predetermined times; and

transmitting the combined data to the second upper layer.

12. The method as recited in claim 11, wherein combining the data is performed using a maximal ratio combining (MRC) process.

13. The method as recited in claim 12, wherein data to be retransmission-requested are stored and managed at the first storage unit of the first upper.

14. A method for performing data transmission between a reception side and a transmission side upon receiving erroneous data at the reception side in a radio communication system wherein the transmission side includes a first upper layer and a first layer 1 and the reception side includes a second upper layer and a second layer 1, the method comprising the steps of:

a) by the transmission side, determining if the reception side requests to retransmit data in which an error occurred;

b) if the reception side requests to retransmit the data in which the error occurred, by the first upper layer,

performing a first data processing;

c) by the reception side, receiving the data from the transmission side and determining if repeated transmission or normal transmission was performed;

d) if the repeated transmission was performed, by the second layer 1, restoring/combining the received data repeatedly predetermined times;

e) by the second layer 1, determining if the received data have errors;

f) if the received data have errors, by the second layer 1, informing the second upper layer that the received data have errors; and

g) by the second upper layer, requesting the transmission side to retransmit the data.

15. The method as recited in claim 14, wherein the first data processing includes the step of:

by the first upper layer, transmitting to the first layer 1 transmission information and the data stored in a first storage unit of the first upper layer, the transmission information including information about the repeated transmission;

by the first layer 1, storing the data in a second storage unit thereof; and

by the first layer 1, transmitting the data to the reception side repeatedly predetermined times based on the transmission information.

16. The method as recited in claim 15, wherein the predetermined times are determined based on first conditions including bit error rate (BER), signal to noise ratio (SNR), a load status of a transmission side system and quality of service (QoS) of transmitted data, the first conditions measured at the time of data transmission.

17. The method as recited in claim 15, wherein the predetermined times are determined based on second conditions including bit error rate (BER), signal to noise ratio (SNR), a load status of the transmission side system and quality of service (QoS) of transmitted data, the second conditions measured before beginning a radio service.

18. The method as recited in claim 15, wherein determining if the repeated transmission or the normal transmission was performed is performed at the second layer 1 based on the transmission information that is transmitted from the transmission side to the reception side.

19. The method as recited in claim 18, wherein the transmission information is transmitted over a path recognizable by the second layer 1, the path including a dedicated physical control channel (DPCCH).

20. The method as recited in claim 19, wherein combining the data is performed using a maximal ratio combining (MRC)

process.

21. The method as recited in claim 20, wherein data to be retransmission-requested are stored and managed at a third storage unit of the second layer 1.

22. Computer-readable record media storing instructions performing a method for repeating data transmission between a reception side and a transmission side in a radio communication system wherein the transmission side includes a first upper layer and a first layer 1 and the reception side includes a second upper layer and a second layer 1, the method comprising the steps of:

a) by the transmission side, measuring a radio environment;

b) determining to perform repeated transmission or normal transmission based on a measurement result; and

c) if it is determined to perform the repeated transmission, by the first upper layer of the transmission side, performing a first data processing;

d) by the reception side, receiving data from the transmission side and determining if the repeated transmission or the normal transmission was performed; and

e) if the repeated transmission was performed, by the second layer 1 of the reception side, performing a second data processing.

23. Computer-readable record media storing instructions performing a method for performing data transmission between a reception side and a transmission side upon receiving erroneous data at the reception side in a radio communication system wherein the transmission side includes a first upper layer and a first layer 1 and the reception side includes a second upper layer and a second layer 1, the method comprising the steps of:

a) by the transmission side, determining if the reception side requests to retransmit data in which an error occurred;

b) if the reception side requests to retransmit the data in which the error occurred, by the first upper layer, performing a first data processing;

c) by the reception side, receiving the data from the transmission side and determining if repeated transmission or normal transmission was performed;

d) if the repeated transmission was performed, by the second layer 1, restoring/combining the received data repeatedly predetermined times;

e) by the second layer 1, determining if the received data have errors;

f) if the received data have errors, by the second layer 1, informing the second upper layer that the received data have errors; and

g) by the second upper layer, requesting the transmission side to retransmit the data.